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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,188	10/24/2003	Peter J. Pupalaikis	455610-2620.1	2321
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FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER WACHSMAN, HAL D	
			ART UNIT 2857	PAPER NUMBER

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,188

Applicant(s)

PUPALAIKIS ET AL.

Examiner

Hal D Wachsman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-14 and 24-28 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 7, 9, 15, 16, 18, 21 and 23 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 6, 8, 17, 19, 20 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. The replacement drawing for Figure 1 filed 2-9-04 is improper under 37 C.F.R. 1.121 because it has not been identified in the top margin as "Replacement Sheet". In addition, labeling (i.e. in words) is needed of all the various graphs shown in Figure 1 so as to facilitate an understanding of the invention from the drawing. Also, Figure 1 is objected to under 37 C.F.R. 1.84(m) because solid black shading is not permitted. Appropriate correction is required.
2. The Abstract is objected to because it contains legal phraseology (i.e. reads like a claim "...the method comprising the steps of ..."). Appropriate correction is required.
3. Pages 9 and 10 of the specification refer to an Appendix A and page 10 of the specification refers to an Appendix B, however both Appendix A and Appendix B are improper under 37 C.F.R. 1.96 because appendices are limited to computer program listings. Appropriate correction is required.
4. Claims 1-28 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The last line of claim 1 cites "the original input signal" however the antecedent basis is "input analog data signal". This same type of problem also occurs in the last line of claim 10, the last 2 lines of claim 15 and the last 2 lines of claim 24. Claim 5, line 1, cites "said periodic function" however the antecedent basis is "predetermined periodic function". This same type of problem also occurs in claim 6, line 1, claim 19, line 1, claim 20, line 1. Claim 7, line 1, cites "the mixed signal" which it appears should be "the mixed at least one split signal". This same type of problem also occurs in claim 8, line 2, claim 21, line 2, claim 22, line 2. Claim 10, line 9, cites "each digitized signal" which it

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appears should be "each digitized split signal". This same type of problem also occurs in claim 24, line 10. Claim 10, line 11, cites "a predetermined periodic function" however is this the same predetermined periodic function already cited previously in the claim ?

This same type of problem also occurs in claim 24, line 13. Claim 10, line 12, cites "the split signal" which it appears should be "the at least one split signal". This same type of problem also occurs in claim 24, line 14. Claim 11 ends with a semicolon instead of a period so there is ambiguity with respect to whether this is the end of the claim or if there was other subject matter that was intended to be claimed here and is missing from the claim. Claim 12, lines 1-2, cite "the low frequency and the high frequency signals" which it appears should be "the low frequency and the high frequency split signals". This same type of problem also occurs in claim 26, lines 1-2. Claim 12, line 3, cites "each channel" which lacks antecedent basis. This same type of problem also occurs in claim 26, line 3. Claim 14, line 1, cites "said predetermined periodic functions" however it appears that the antecedent basis is singular. This same type of problem also occurs in claim 28, line 1. The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4, 9, 15, 16, 18 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Elder (5,659,546).

As per claim 1, Elder (Abstract, col. 2 lines 47-49) discloses “receiving an input analog data signal”. Elder (Abstract, col. 2 lines 54-56) discloses “splitting the received input analog data signal into a plurality of split signals”. Elder (Abstract, figures 4A, 4B, 5A-5C, col. 2 lines 49-51, 64-66) discloses “mixing at least one of said split signals with a predetermined periodic function with a predetermined frequency”. Elder (see at least abstract) discloses “digitizing said split signals”. Elder (Abstract, col. 5 lines 47-50) discloses “combining said digitized split signals...a substantially correct representation of the original input signal”.

As per claim 2, Elder (see at least abstract) discloses the input analog signal being split by a splitter and it is inherent in the art that a 50 Ohm splitter is one type of splitter.

As per claim 4, Elder (Abstract, col. 2 lines 56-58, 59-61, col. 3 lines 8-11) discloses the feature of this claim.

As per claim 9, Elder (see at least abstract) discloses the feature of this claim.

As per claim 15, Elder (Abstract, col. 2 lines 47-49) discloses "an input for receiving an input analog data signal". Elder (Abstract, col. 2 lines 54-56) discloses "a splitter for splitting the received input analog data signal into a plurality of split signals". Elder (Abstract, figures 4A, 4B, 5A-5C, col. 2 lines 49-51, 64-66) discloses "a mixer for mixing at least one of said split signals with a predetermined periodic function with a predetermined frequency". Elder (see at least abstract) discloses "a digitizer for digitizing said split signals". Elder (Abstract, col. 5 lines 47-50) discloses "a combining unit for combining said digitized split signals...a substantially correct representation of the original input signal".

As per claim 16, Elder (see at least abstract) discloses the input analog signal being split by a splitter and it is inherent in the art that a 50 Ohm splitter is one type of splitter.

As per claim 18, Elder (Abstract, col. 2 lines 56-58, 59-61, col. 3 lines 8-11) discloses the feature of this claim.

As per claim 23, Elder (see at least abstract) discloses the feature of this claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elder (5,659,546) in view of McGeehan et al. (5,950,119).

As per claim 7, McGeehan et al. (Abstract, col. 1 lines 4-9, col. 3 lines 28-30) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of McGeehan et al. to the invention of Elder as specified above because as taught by McGeehan (col. 1 lines 5-8) it provides an image-reject mixer which can be used in a wideband receiver and any receiver circuit must be designed such that it is able to reject signals in the image band.

As per claim 21, McGeehan et al. (Abstract, col. 1 lines 4-9, col. 3 lines 28-30) teach the feature of this claim. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of McGeehan et al. to the invention of Elder as specified above because as taught by

McGeehan (col. 1 lines 5-8) it provides an image-reject mixer which can be used in a wideband receiver and any receiver circuit must be designed such that it is able to reject signals in the image band.

9. Claims 10-14 and 24-28 are allowed subject to the appropriate correction of the 37 C.F.R. 1.75(a) objections noted in paragraph 4 above.

Claims 3, 5, 6, 8, 17, 19, 20 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and subject to the appropriate correction of the 37 C.F.R. 1.75(a) objections noted in paragraph 4 above.


10. The following references are cited as being art of general interest: Buda (US 2002/0150173) which discloses a digital receiver tuner with a digitizer portion, Smith et al. (5,668,836) which disclose a split frequency band signal digitizer and Nara et al. (6,340,883) which disclose an analog splitter with digitization.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hal D Wachsman
Primary Examiner
Art Unit 2857

HW
November 28, 2004